

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/08333

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01L21/322, H01L27/12, C30B29/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L21/26-21/268, H01L21/322-21/326, H01L27/12,
H01L21/205, C30B1/00-35/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2003
Kokai Jitsuyo Shinan Koho	1971-2003	Jitsuyo Shinan Toroku Koho	1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	EP 1087041 A1 (SHIN-ETSU HANDOTAI CO., LTD.), 28 March, 2001 (28.03.01), Full text; Figs. 1 to 5 & WO 00/55397 A1 Full text; Figs. 1 to 5 & KR 1071250 A & US 6544656 B1	1-8, 10-17 9
Y A	BABICH, V.M. et al., 'Generation of thermal donors as a result of one- and two-step annealing of silicon crystals with large and small carbon concentraions', Semiconductors, Vol.30, No.5, May 1996, pages 417 to 419	1-8, 10-17 9

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not
considered to be of particular relevance"E" earlier document but published on or after the international filing
date"L" document which may throw doubts on priority claim(s) or which is
cited to establish the publication date of another citation or other
special reason (as specified)"O" document referring to an oral disclosure, use, exhibition or other
means"P" document published prior to the international filing date but later
than the priority date claimed

"I" later document published after the international filing date or
priority date and not in conflict with the application but cited to
understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be
considered novel or cannot be considered to involve an inventive
step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be
considered to involve an inventive step when the document is
combined with one or more other such documents, such
combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
30 September, 2003 (30.09.03)Date of mailing of the international search report
21 October, 2003 (21.10.03)Name and mailing address of the ISA/
Japanese Patent Office

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PCT/JP03/08333

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KODATE, Jun'ichi et al., 'Suppression of Substrate Crosstalk in Mixed-Signal Complementary MOS Circuits Using High-Resistivity SIMOX (Separation by Implanted OXYgen) Wafers', Japanese Journal of Applied Physics, Part 1, Vol.39, No.4B, April 2000, pages 2256 to 2260	7, 14, 15
Y	JP 5-144827 A (Komatsu Electronic Metals Co., Ltd.), 11 June, 1993 (11.06.93), Full text; Figs. 1 to 3 & WO 93/10557 A1	13
A	WIJARANAKULA, W. et al., 'A Formation of Crystal Defects in Carbon-Doped Czochralski-Grown Silicon after a Three-Step Internal Gettering Anneal', Journal of Electrochemical Society, Vol.138, No.7, July 1991, pages 2153 to 2159	1-17
A	GAWORZEWSKI P. et al., 'Oxygen-Related Donors Formed at 600°C in Silicon in Dependence on Oxygen and Carbon Content', Phys.Stat.Sol.(a), Vol.77, No.2, 1983, pages 571 to 582	1-17